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Readiness Differentiation in Reading Comprehension of Fourth Grade Students

A Research Project Presented to the Faculty of Sweet Briar College

In Partial Fulfillment of the Requirements for the Degree
Master of Arts in Teaching

By

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Chapter I

I worked with a group of fourth graders at Amherst Elementary. Amherst Elementary is a small rural elementary (K-5) school in Amherst, Virginia, part of the Amherst County Public Schools. There are approximately 350 students at Amherst Elementary School of whom 55% are male and 45% are female. The school has 30 classroom teachers with a 1:12 teacher-student ratio comparable to most Virginia schools at a 1:13 teacher-student ratio. In a fourth grade classroom that has a 1:19 teacher-student ratio. The class is composed of one Black male, two Black females, eight White males, seven White females and one Hispanic female. The percentage break down is as follows: 53% female, 47% male, 16% Black, 79% White, and 5% Hispanic.

I grew up in Amherst County so, as a student and teacher in the same school system, I have noticed that many students have trouble reading and comprehending the text. Not only do many have trouble reading, but also they are often well below average for their grade level, sometimes two or three years behind in elementary school. I have had this experience at both Central Elementary, a Reading First School, where I was a PALS (Phonological Awareness Literacy Screening) instructor and at Amherst Elementary during my field-study observations.

Last year I worked in a school setting where I tutored or remediated instruction for children who failed their PALS test. PALS, a test developed by University of Virginia's Curry School of Education, was developed for teachers to use as a screening tool. Teachers use this tool to identify students who need additional reading instruction. The test identifies the areas in which a child is having trouble, allowing the teacher to target those areas for additional instruction (Noble, 2002). A good example was my

experience as a PALS instructor at Central Elementary. I had a mid-year second grader who was still reading on a pre-primer readiness level. This is equivalent to mid-kindergarten/beginning first grade. I had third graders reading on primer levels, equivalent to mid-first grade.

I enjoyed working at Central Elementary but it was also a big frustration because Central Elementary is a Reading First School. In a Reading First School the school system agrees to devote 90 *uninterrupted* minutes to reading instruction using the basal reader text for each grade level in order to receive a federally funded grant. However, when only the basal reader is used to teach instruction, children who are struggling readers become more frustrated by their inability to read. Through only basal reader instruction these children lose the opportunity to be taught at their instructional levels. Children who are being taught at their instructional levels recognize 95% of the words and comprehend 70-89% of what they have read. Whereas, children who are being taught at their frustration levels, less than 90% word recognition and less than 50% reading comprehension, only become more frustrated by their lack of ability which causes them to fall further behind in reading (Bear, 1998).

According to recent research, when instruction is differentiated by readiness, students' needs are met and they achieve more. Tomlinson speaks of these students' needs in her book, Fulfilling the Promise of the Differentiated Classroom, and they include affirmation, contribution, power, purpose and challenge. When a student's work is differentiated by readiness, it allows the student to be challenged, but with a goal that is within reach (Tomlinson, 2003). According to Vygotsky, this is the zone of proximal development. The zone of proximal development is what a child is able to do with

support of scaffolding (North Central Regional Educational Laboratory, para. 1). When a student is challenged and meets his goal, the student is then affirmed by meeting the goal which in turn leads the child to a sense of power, purpose and contribution because he can feel as though he can add to the classroom learning environment (Tomlinson, 2003b).

Being able to identify and describe observable teacher variables in relation to student achievement was the purpose of the Beginning Teacher Evaluation Study (BTES). Several examples of what the researchers were looking for were student engagement time, student-teacher interactions, grouping arrangements, and content coverage (Ellis, Worthington, & Larkin, para. 3). The study rated the success rate of students. BTES assigned values to its findings: *high* equaled students who worked at tasks that were very easy for them; *moderate* equaled students who showed some mastery, but still needed to work at it a bit; and *low* equaled students whose tasks were too hard for them to complete and who made many errors. In the end, researchers found that when tasks were completed at a high success rate the learning of content was high, as well. The interest of the children in the learning task was also high. The tasks that had a low success rate corresponded to incomplete work, and negative attitudes and behaviors in and about school (Allington, 2001).

Research indicates that by combining differentiation by readiness and comprehension strategies employed during reading instruction, students' reading comprehension should improve. Based upon the frustration of students who struggle to read every day, *I want to investigate whether reading comprehension will improve for fourth grade students when reading instruction is differentiated by readiness.*

Chapter 2

Review of the Literature

As I continue to see students struggle to read everyday, I have taken an interest in the frustrations of those struggling readers. I found through research that students learn better when they are instructed according to their readiness levels. Therefore, it only makes sense to teach students according to their instructional level, the level at which students are slightly challenged but are capable of learning and achieving with some assistance (Bear & Barone, 1998). This is the reason I decided to teach reading instruction to my children at their instructional level.

Statistics show that many students have reading problems, it is estimated that 40% of upper elementary grade students are doing poorly in school based on motivational and/or attention issues, while 15-20% of those students are struggling due to a lack of basic skills (Neal, 2002). The struggling students frequently have problems with reading, such as word recognition or lack of decoding skills, which affect their fluency. In turn, these problems affect reading comprehension. Students' attention is diverted from comprehending what they are reading when they have to spend time trying to figure out sight words and decoding unknown words (Neal, 2002). When it is a struggle for students to read, they tend not to read, denying themselves the chance to learn from new grammar experiences, vocabulary, and knowledge which challenge and/or prohibit further learning. Therefore, "poor readers get even poorer" (Neal, 2002, p. 105).

The instruction of reading comprehension is very important but often overlooked by even the best teachers. There's little agreement about what should be done to improve reading comprehension, but there is a consensus that reading comprehension should be scaffolded (Clark & Graves, 2005). Wood, Bruner and Ross were the first to use the term

scaffolding in an educational setting and they described it as a “process that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts.” Since their time many other definitions have come to the forefront. Graves and Graves say “scaffolding can aid students by helping them to better complete a task, to complete a task with less stress or in less time, or to learn more fully than they would have otherwise” (Clark & Graves, 2005, p. 571). All of these definitions are based on Vygotsky’s social constructivist view of learning which states that children operate within their zone of proximal development, the area between independent learning and the need for assistance. Eventually students will respond to the assistance by being able to do it all on their own or in a different context (Clark & Graves, 2005), also known as the transfer of knowledge or understanding (Wiggins, 2005). Scaffolding is very effective because it allows the teacher to give a whole task, providing the students with a do-able challenge in which they are able to learn to manage the parts (Clark & Graves, 2005). When students are given work at their readiness level, or instructional level, they are working in their zone of proximal development. With appropriate scaffolding, they are able to meet the challenge of a complex task.

Cooper, like Clark and Graves, believes in differentiating instruction. Cooper defines differentiation as adjusting instruction to meet the needs of all of our students (Cooper, 2003). Tomlinson (2003), also a strong supporter of differentiation, defines it as “responsive instruction.” In other words, differentiation is about changing our instruction to meet our students’ needs. These needs can be met through all or any of the following: content, or curriculum standards; student strengths and weaknesses such as, readiness, interest, and learning profiles; process or the way a student grasps the

information, ideas and skills that are taught; and product or the chance to transfer skills, demonstrating or applying his/her knowledge and understanding of the lessons taught. Instruction may also be differentiated via the following avenues: interest, the attraction and zeal a student has for a topic or quest of knowledge; learning profile, the way a student learns best; and affect, the way a student feels about his/her work, him/herself and his/her learning environment (i.e. classroom(s)/school) (Tomlinson, 2003b).

I have chosen to differentiate instruction by readiness. Readiness is not as clearly defined as other methods because it is different for each student. Instructors must know their students and how far they can be pushed before giving up, i.e. how much of a challenge can they handle. When reading instruction is differentiated by means of readiness such as adjusting instruction and activities to meet the readiness needs of students (Tomlinson, 2003a), students have a greater success rate, are more responsive, and are happier. The Beginning Teacher Evaluation Study (BTES) shows that students who are given tasks at their instructional reading levels and are given a sufficient amount of scaffolding are more likely to achieve at a higher success rate, thus exhibiting good attitudes. Students who are required to complete work in reading at or above comprehension levels are more likely to achieve at a lower rate, often resulting in negative attitudes about assignments and school in general (Ellis, Worthington, & Larkin 2002, Allington 2001). When students are matched to their readiness levels, it “maximizes the chance of appropriate challenge and growth” (Tomlinson, 2004).

Carol Ann Tomlinson (2003b) strongly believes students should be allowed to work at their own readiness levels, which can be further differentiated through content, process or product. In content differentiation, students use different materials to learn the

subject matter such as reading materials at differing reading levels, books on tape (could also be differentiation by learning style), or mini-lessons, to name a few. Process can also be differentiated by allowing students to complete tiered activities, by allowing students to work at their own readiness levels, or by providing each student with an assignment that fits his/her needs by offering “different levels of support, challenge or complexity.” Process might also be differentiated by interest, allowing students to choose work based upon their interests, which often creates a positive student attitude about learning (Tomlinson 2003b). Finally, learning and instruction may be differentiated by product. This method allows students to choose the culminating assignment, for example, whether they want to retell a story through a written paragraph, a dramatization, a song, or even a mural (Tomlinson, 2003a).

One way to differentiate by readiness is to provide leveled-texts. Leveled-text is an excellent tool for teachers. Students must be able to read without frustration; therefore, this is a great instrument to match all students to appropriately leveled texts. Most classrooms use the basal reader provided by their school system for each grade level. Students who are reading below-grade level experience much frustration and often are unable to understand the story due to the lack of continuity and fluency in their reading. Students who are reading above-grade level quickly get bored with the text. This is a great opportunity to match child to text. Leveled books give teachers “freedom, flexibility, and insight as they select from a wide array of texts to meet students’ instructional needs” (Brabham & Villaume, 2002). The downside to this is that some teachers focus on finding the right leveled-book or being able to move a student up a level that they fail to provide adequate reading instruction in word recognition strategies

and reading comprehension. Other problems include failure to allow students to read outside their level, preventing students from developing reading strategies on their own, as well as, the motivation to find books of interest. Teachers must learn how to use the system and focus on student instruction instead of trying to collect lots and lots of books and advancing children who may not be ready to advance due to a lack of proper reading instruction. So, in the right hands, leveled-books are a great resource and can bring much to a classroom (Brabham & Villaume, 2002). Therefore, when reading instruction is taught through leveled-texts, there may be more than three reading groups. The good thing is there are many levels and much more room to move forward with leveled-texts, helping to rid classrooms of unnecessary labels.

To encourage students to read many schools have adopted the Accelerated Reading Program (AR). It is a computer-based system. Students choose a book on their reading level. They take the quizzes for their books on the computer. The student and teacher both receive immediate feedback on the student's results. The schools in Amherst County have the AR system in their schools. The students get recognition and awards when they receive a certain number of points. Each book is assigned a number value in readiness and the number of points to be received if the student passes the quiz (Renaissance Learning, web). This is a great program to help children to increase their reading skills at their independent reading level. In the event that students choose not to participate in the program, they can still use the reading levels located in the books to help guide them in finding appropriate books to their reading levels.

Just as word recognition and reading comprehension are important aspects of reading so is fluency. Broadus and Worthy explain fluency, which they consider:

“integral to comprehension and [fluency] is a critical component of successful reading, but even reading researchers don’t agree on a single definition...fluency is not a simplistic concept. Like music, it consists not only of rate, accuracy, and automaticity, but also of phrasing, smoothness, and expressiveness. Fluency gives language its musical quality, its rhythm and flow, and makes reading sound effortless.” (Worthy & Broadus, p. 334)

As an integral part of reading, fluency has many key components: vocabulary of high-frequency words or sight words, grapho-phonics skills or letter/sound correspondence, and accurate decoding strategies. These components need to be practiced daily through meaningful writing and reading. Fluency is important because when students are not fluent they have a hard time keeping up and understanding their reading assignments which only leads to frustration, “fear of failure and negative attitudes” (Worthy & Broadus, p. 335) towards reading. When students cannot read or refuse to read, it only sets them up to fail, as one set of researchers said, “Students who don’t read don’t ‘get good’ at reading” (Worthy & Broadus, p. 335). Matters worsen from there, if students are not good, they’re not going to read, and if they do not read they miss-out on ideas, vocabulary, intellectual stimulation and academic success. All of this means that fluency instruction is as important as teaching reading comprehension. It is a must in the classroom.

So, how is fluency improved? Students must practice. Fluency only comes through practice. Students must be able to automatically identify sight words and be able to decode unknown words instantly without thinking /c/ /a/ /t/ = cat. When students are able to respond fluently they look at a word such as “cat” and read it “cat” but this is only achieved through practice. Students need to be given the opportunity to read and reread books. They need to read books at their independent levels frequently in order to

build up vocabulary and speed, a great use for leveled-texts (Neal, 2002). Different methods of encouraging fluency, which develops over time and with lots and lots of practice, are modeling fluency instruction or letting the students hear you read with expression! Repeated readings allow students to practice the same pieces over and over. If they refuse to read the same story or passage three to five times, as older kids will do, have them begin a series where the books have the same main characters, and the plot and setting remains the same. Students get used to the format of that series resulting in increased fluency over time. By making fluency a focus in the classroom everyone becomes a better reader accomplishing the true goal of reading—"for learning and enjoyment" (Worthy & Broadus, p. 342). In order for students to increase their fluency they need to have time to work in class and at home. They need to have direct instruction with modeling and they must receive feedback as they read. As students become fluent readers their self-esteem increases as well. Their reading comprehension improves because they are now able to focus on meaning instead of decoding (Neal, 2002).

Clark and Graves (2005) give a few strategies that focus on reading comprehension in their article "Scaffolding Students' Comprehension of Text." They explain three types of scaffolding: moment-to-moment verbal scaffolding, instructional frameworks that foster content learning, and instructional procedures for teaching reading comprehension strategies. In moment-to-moment scaffolding, the teacher prompts students by asking probing questions as well as, expands on the students' responses to the instruction, so she may ask a question of a student or the class such as, "Do we eat roots?" The class responds with a definite "No!" So, the teacher keeps going, "Do we eat carrots?" A resounding "Yes." "Is a carrot a root?" she continues, a nod from the

students. “So, if carrots are a root and we eat them, then sometimes we must eat roots.” By keeping how her questions and their elaboration develop, the teacher helps students get nearer the goal by using the students’ responses to help them think metacognitively, or reflection upon their own thinking and actions (Clark & Graves, 2005, pp. 572-4).

Another framework to foster content learning is the Scaffolded Reading Experience, or SRE. In this strategy teachers assist students to learn, understand and enjoy narrative and expository texts. The SRE accomplishes this through two phases: planning and implementation. In the planning phase the teacher must consider which student(s) will be reading, the text itself, and the purpose(s) of the assignment. The teacher then creates: pre-reading assignments or activities such as, activating prior knowledge, providing text-specific knowledge, pre-teaching of vocabulary, predicting, etc. During reading assignments or activities, the teacher might have students read silently, read orally, read to other students, etc. Post-reading assignments or activities might include but not limited to questioning, discussion, drama, etc. to help students reach the goal, or the purpose of the assignment (Clark & Graves, 2005).

The third type of scaffolding mentioned is instructional procedures for teaching reading comprehension strategies. Here, the teacher’s job is to provide/teach strategies to help students become independent readers over time. The teacher clearly teaches strategies to students that encourage students to read independently by engaging them in supported practice with different texts, gradually transferring the responsibility of that strategy to the student when he/she is ready. Two strategies used with this type of scaffolding are Direct Explanation of Comprehension Strategies (DECS) and Reciprocal Teaching (RT). DECS teaches individual strategies in a very clear-cut manner. The

steps are 1. “An explicit description of the strategy and when and how it should be used.” 2. “Teacher and/or student modeling of the strategy in action.” 3. Collaborative use of the strategy in action.” 4. Guided practice using the strategy with gradual release of responsibility.” 5. “Independent use of the strategy.” The teacher should continue reminding students to use this strategy especially as texts increase in difficulty. In RT, a set of four comprehension strategies (questioning, summarizing, clarifying and predicting) is taught. The teacher works in small groups describing the strategies, asking students about them, and mentally judging where each student lies within each strategy in order to scaffold instruction for that student. The strategies “help students to understand the purposes of reading, activate prior knowledge, focus attention on more important content, and draw and test inferences” through conversations with the group. The teacher’s role is to assist students while reading to comprehend the text, focusing and directing the conversations. In the end, the students will be able to use the strategy on their own but during the between time students begin asking questions and answering their own questions with prompts (Clark & Graves, 2005). Each student needs scaffolding for reading comprehension but the scaffolding can be individualized based upon readiness for each student or small groups. Some students will still need “moment-to-moment” scaffolding because they may not be able to make logical connections between their thoughts, or they might need just a small push in the right direction. Other students will “know” what’s going to happen through a combination of intuition based on prior knowledge and experience.

As we become competent readers we use predicting and prior knowledge every time we read something, whether it is a billboard or a research paper. One teacher, Gayle

Newman, knew the importance of being able to comprehend what you read which begins with predicting and prior knowledge. She was having trouble getting all of the students in her class to completely and to correctly answer the pre-reading questions, which included predicting and prior knowledge. She knew it was very important to the overall understanding of the story and due to this lack of knowledge these students seemed to have over the process and story, their reading comprehension was low in class and on national standardized tests. She noticed that several students really had the process down, while others did not. But as she began to look further she noticed that those who did would always get excited about starting a new story and would talk about it before and during the pre-reading questions, while other students sat and looked around. She soon realized that the students who were getting the concept were auditory learners. She then struggled with how to get the visual and tactile learners to get this and she came up with the comprehension strategy gloves. The pre-reading glove helped students activate prior knowledge and to make predictions using symbols (each placed on a finger): 1. Eye-What do you see? (Look at the picture and read the title.) Now in your mind, what do you see? (The students' response must include what they saw.) 2. Cloud-"What are you thinking?" (All responses are correct if they can justify it.) 3. Heart-"How do you feel?" (All responses are correct if they can justify it.) 4. Smile (palm) or sad face (back)- "Were you right?" or 'Did what you were thinking actually happen?' (If response is 'yes,' show the smile and cloud and ask, 'What are you thinking now? Why?' If the response is 'no,' show the sad face and cloud and ask, 'What are you thinking now? Why?'"

The narrative text glove contained such questions as (symbols 1-4 on fingers): 1. Place—"Where is the story taking place?" or "What is the setting?" 2. Animal/person—"Who are the characters?" 3. Stairs 1, 2, and 3—"What happened first, next, and last?" and "What were the important events in the story?" 4. 1+1 chalkboard—"What was the story problem (goal)?" 5. "2" chalkboard (on back of palm)—"What was the story's (re)solution or ending?" The expository text glove had two questions. "1. Lock—"What's the main idea?" 2. Keys—"What are the details that support the main idea?" or "What are the supporting details?" Newman and her co-workers saw an increase in reading comprehension with all readers, beginning, developing and struggling (Newman, 2001, 329-332). Referring back to Carol Tomlinson's (2003b) ideas of learning preferences and modalities it may take more than one way to teach comprehension strategies, but they may have to be adapted to meet students' personal learning needs.

Many classroom teachers have begun using another strategy, literature circles, to teach reading comprehension. In a literature circle students direct their own learning. They are given or they may be allowed to choose a novel in which they decide how many pages should be read each night and they assign each member of their circle a task or job. The most common tasks in a literature circle are clarifier, summarizer, questioner, and the predictor. The clarifier must find five words or concepts that are important to the story, explaining each one. The summarizer must briefly summarize the reading to that point, including important events. The questioner must develop four questions about the book to discuss within the group. The predictor must predict what will happen next in the story and give the reasons why he/she thinks that will happen. The teacher/students can feel free to add jobs based upon the selection read or if there are more than four people they

may assign two people to a task or have someone be an on-task keeper (All America Reads, 2003). This method is a great way to teach reading comprehension because the students themselves have to come up with the questions and answers themselves and by each person having a job everyone has to play a part, no one can sit back and watch class happen.

Knowing the importance of teaching fluency and reading comprehension at a student's readiness level, it is once again emphasized through standardized testing, or even grade-level tests, that differentiating instruction and assessment is necessary. Differentiating assessment is necessary because students are unable to show what they really know on standardized tests. When students are assessed through authentic assessments at individual readiness levels, teachers are better able to assess what students need than when they are tested with standardized tests. Standardized tests do not show small significant increases in achievement, as do authentic assessments. Standardized tests also do not allow for students to be tested through preferred learning styles or modalities. When students are tested at their own readiness levels they are able to achieve more because if a student is in fourth grade, reading on a primer level they will fail the fourth grade standardized tests, even though they may be able to comprehend the whole thing (Valencia, 1997).

Through the differentiation of readiness and comprehension strategies employed during reading instruction, students' reading comprehension, as research showed, should improve.

Chapter Three Method

The purpose of this research was to *investigate whether reading comprehension would improve for fourth grade students when reading instruction was differentiated by readiness*. Within a five-week period, students were given direct instruction on five reading strategies and differentiated instruction within their ability or readiness groups. Students were pre- and post-test using the computer adaptive SRI Assessment located in the school's computer lab. It was found that the nineteen students in the class could be broken into three reading ability groups as determined by their scores on the SRI Assessment. As a tool the SRI breaks each grade level into SRI Performance Standards: Below Basic, Basic, Proficient, and Advanced. I used those performance standards to group students into three reading groups. The three reading groups were as follows: Below Basic and Basic were combined as one group composed of five students, two boys and three girls. Proficient through Lexile Score of 800 (except for one student who had a Lexile Score of 875 but often struggles due to Dyslexia) was the second grouping containing four boys and two girls. The third group was composed of six students, one boy and five girls, all proficient with a Lexile score of greater than 800. The groups were each assigned a novel: The Below Basic and Basic group was assigned Sarah, Plain and Tall by Patricia MacLachlan. The Proficient group was assigned Freedom Crossing by Margaret Goff Clark. The Advanced group was assigned The Wish Giver by Bill Brittain. The novel was read independently in class and for homework.

Fourth grade students' reading comprehension was tested through the administration of the Scholastic Reading Inventory (or SRI). The SRI completes the following:

“students' reading levels, tracks students' reading growth over time, matches readers to text, and helps guide instruction according to students' needs.” The SRI does not have a limit as to how many times it can be used. Many schools use the SRI as a pre-test at the beginning of the school year to place students at the correct reading level and again as a post-test at the end of the year to measure for yearly reading growth. They may even use it as a mid-year check-in to monitor students' reading progress to date. The test was designed in accordance with The No Child Left Behind legislation. The SRI assessment includes many different texts for students in grades 1-12 to choose from, although first graders should only take this test if they are truly reading. They include fiction and non-fiction including the following genres: young adult, classic literature, newspapers, magazines, and periodicals. The test tests for reading comprehension, not just vocabulary across content areas. The SRI has 32,000 books in its database allowing the teacher to match books to the curriculum and the students' reading needs. The SRI not only assesses reading comprehension but it also gives the following:

- Lexile measure—this measure is made in order to match books to the student. This is done when the SRI and the Lexile framework work together. Lexile measures both the student's reading level, as well as, the actual text.
- Performance standard
- Grade-level standard
- Percentile rank
- NCE (normal curve equivalent)
- Stanine

The assessment is a computer adaptive test. When the student answers a question and gets it correctly the computer gives the student a slightly harder question. The same thing happens in reverse when a student misses a question. If the student gets the question wrong, the computer issues an easier question until the student gets it correct. Then they progressively get harder again, adjusting to the student's ability. The SRI also offers immediate feedback. Student and teacher receive scores when the student finishes the assessment. It takes about 20 minutes per test <http://teacher.scholastic.com/products/sri/overview/faq.htm#1>.

The students were pre-tested on January 25, 2006 and re-tested on March 22, 2006, which allowed me to provide instruction for 25 days. I implemented reading comprehension strategies while differentiating student activities by readiness, which were determined through the SRI assessment. I introduced a new strategy every week. The strategies that were introduced to the class were:

- Building connections—which consisted of prior knowledge and knowledge needed to understand the story. From there we made text-self, text-text, and text-world connections.
- Think-alouds—these focused on the thoughts we had while reading which were verbalized as we read.
- Comprehension strategy gloves—see Chapter 2 for more info.
- Reciprocal teaching—through guided instruction students helped teach each other in their group.
- Literature circles—students took on specific roles, providing instruction to their group.

I chose these strategies based upon the reading comprehension component. Clark and Graves (2005) explained three types of scaffolding: moment-to-moment verbal scaffolding, instructional frameworks that foster content learning, and instructional procedures for teaching reading comprehension strategies. The strategies are set up to scaffold, or support, the student in their learning. The first type of strategy is helping students as they speak. Through teacher questions, the strategy uses students' thoughts and words to help students think through the process as the task is being done. This teaches and allows the students to think metacognitively. As students' skills progress the instructor can move into the second type of strategy that includes pre-, during-, and post-reading activities, such as predicting, prior knowledge, and text-connections. These activities are planned prior to the implementation of the lesson, taking into consideration the type of text, the actual text, and the reader's abilities. After students have successfully managed the second type of strategy the teacher can begin the third type of scaffolding which includes instructional procedures for teaching reading comprehension strategies. This is where the teacher has moved from totally teacher-centered lessons in moment-to-moment scaffolding, to guided-instruction within the instructional frameworks, and now the teacher is moving closer to student-led instruction by implementing strategies such as reciprocal teaching. In reciprocal teaching the teacher works in small groups to teach the strategies, ask questions, and monitor individual student progress, when students have learned how to use the four strategies (questioning, summarizing, clarifying, and predicting) they are able to design their own questions for understanding. The next step in the continuum is the literature circle strategy. This strategy is totally student-led. The students through student assigned tasks come up with

their own vocabulary, predictions, questions, and summaries. The students within the literature circle discuss the student tasks designed for understanding and comprehension of the story.

As I implemented these strategies within my own classroom, I began each week focused on direct explanation of the comprehension strategy (DECS) to be used.

A week of instruction would include the following:

Monday: Students would listen to direct instruction and/or participate in guided instruction regarding the strategy of the week. They would be given an assignment to complete during their reading pertaining to the current reading strategy. They would then be given their reading assignment.

Tuesday: Students would be given their vocabulary words and reading comprehension questions and would work on them individually in class. If they did not complete them during class time they would be required to finish them for homework. We would meet as a large group to review the reading comprehension strategy and to see how they did on their homework assignment.

Wednesday: Students would be given a vocabulary review sheet. This sheet would often be in the form of a crossword puzzle because they were mostly self-assessment. I would meet with students in their reading groups to review their vocabulary and to go over their assigned questions. We would discuss the questions together as a group before deciding on a final answer.

Thursday: If there was a group that I did not meet with on Wednesday, I would meet with them first. Then I would answer any questions students might have in large group, small groups, or individually as needed. We would once again meet as a large group to

discuss the reading comprehension strategy as a group, checking for clarity and understanding.

Friday: Students would be given a reading test composed of their vocabulary words, reading strategy, and reading comprehension questions.

The county was participating in a reading contest during the time period that my research was being conducted. The Amherst Women's Club had set aside funds to pay for the winning class of fourth graders to go to Amazement Square. Each fourth grade class in the county tallied the books that each student read during two week intervals. My class maintained a position between third and fifth place during the contest. This allowed students to practice their fluency skills, since many of them were reading books in series and on their independent reading levels, as indicated by Worthy and Broaddus (2001).

Chapter Four

Results

Students completed a differentiated novel study. Students were grouped according to their reading abilities as assessed by the Scholastic Reading Inventory (SRI). The SRI broke each grade level into SRI Performance Standards: Below Basic, Basic, Proficient, and Advanced. I used those performance standards to group students into three reading groups. The three reading groups were as follows: Below Basic and Basic were combined as one group composed of five students, two boys and three girls. Proficient through Lexile Score of 800 (except for one student who had a Lexile Score of 875 but often struggled due to Dyslexia) was the second grouping containing four boys and two girls. Proficient with a Lexile Score greater than 800 and Advanced were the third group composed of six students, one boy and five girls.

The study took approximately six weeks. Students were given a pre-test with the SRI assessment a few days before implementing the research in order to group students according to their readiness abilities. Students were assigned weekly readings in their book. In addition to the readings they had to complete vocabulary assignments and reading comprehension questions. Each week they also participated in guided lecture on the following topics: **Week 1: Building connections**—this consisted of prior knowledge and knowledge needed to understand the story. From here we made text-self, text-text, and text-world connections. Students had journal assignments to complete to help activate prior knowledge and to explore text connections. Students also participated in large group and small group discussions concerning the connections they were making with their books. This theme was an ongoing idea throughout the novel study.

Week 2: Think-alouds—I read a picture book to demonstrate how I think while I read. I gave students time to write what they were thinking when I paused. After they wrote I would tell them what I was thinking about at that time. For practice students were required to pause after reading “x” number of pages in their book and write their thoughts. These were shared the following day in group discussion.

Week 3: Comprehension strategy gloves—see Chapter 2 for more info. We discussed each part of the two different gloves and how they would help us with our reading.

Week 4: Reciprocal teaching—After modeling and discussion of the parts of reciprocal teaching students were required to complete the parts. Each student had to make predictions while reading. Each student had to come up with a list of vocabulary words, these words were important to understanding the story or words that the students did not understand. Each student had to create a list of questions that they thought were important to the understanding of the story or questions that they did not understand or that needed clarification. Students began assignment in class. If they ran into a part of the assignment that they did not understand, this approach allowed them to ask questions after they began working. If students did not finish the assignment in class they had to complete the assignment for homework. The following day we compiled questions and vocabulary for each reading group. Together as a group we decided which words and questions to keep. I then supplemented with words or questions that I felt were important to the understanding of the novel. Students then began this assignment in class, once again finishing up for homework.

Week 5: Literature circles—Instruction is student-led within a literacy group. Students were assigned jobs within each reading group. Each group had the following: A

Questioner, someone who asked and discussed questions related to the reading assignment. They could ask any level of questions but were instructed to ask questions they thought I would ask, or questions that would make good test questions, such as “How?” and “Why?” questions encouraging deeper thinking. A *predictor*, someone who would make predictions about the story. They were to make a prediction before, during—pausing at different places, as we did in the “Think-aloud” exercise, and after they completed the assignment. A *clarifier*, this person came up with a list of at least ten vocabulary words. These words could be words they did not understand or words that they thought were important to the understanding of the story. The *artistic person* had to draw a scene that was important to the story or a scene that summarized the story. The *super summarizer* had to summarize the reading assignment. Following the five weeks of instruction students were given a post-test with the SRI assessment.

A Wilcoxon Signed Rank Test, a nonparametric test, was performed. The results for my sample of 19 students was as follows: The obtained value = 0.66, degrees of freedom = 17. The degrees of freedom were 17 instead of 18 because one set of pre- and post- data points was equivalent and was deleted per test parameters. The exact probability that the obtained value was acquired by chance was 0.2546 or 25% (see Appendix Table 2). At a .05 significance factor, the critical value needed for rejection of the null hypothesis was 1.74 for a one-tailed test. The obtained value of 0.66 was less than the critical value of 1.74 and within the 95% confidence interval range (see Appendix Table 3). Therefore, the null hypothesis: *There will be no difference in reading comprehension of fourth grade students when reading instruction is differentiated by readiness* is accepted to be the best possible explanation (Lowry, web).

Threats to validity of the research project and conclusions are few. Testing was a threat in the sense that my students do not like taking tests. Therefore, I have a few students who do not take it seriously and answer the questions without reading the passage. Thus, having to take it a second time was agonizing to them. This also relates to reactive or interaction effect of testing. Students who did not want to take the test received decreased scores accounting for the decrease in their responsiveness to the reading comprehension strategies provided in class. Multiple treatment interference is another threat to the experiment. Not knowing students' prior knowledge of subject matter and reading comprehension strategies it is hard to know how much of an effect it had on their SRI score. But the biggest threat to the experiment was maturation. The study was too short and needed to be much longer in order to determine if growth of reading comprehension had actually occurred (Ohlund & Yu, web).

Even though my research experiment supported the null hypothesis, which stated that there was no change in the students' reading comprehension when differentiated by readiness, there were individual students whose scores did improve. There are many researchers such as Grant Wiggins, Jay McTighe, and Carol Ann Tomlinson that have demonstrated that differentiating by readiness works. I think I would have seen a difference in students' reading comprehension growth if the project was longer than five weeks. The research experiment is worth trying again taking into account the future research considerations.

For future research considerations it is recommended that the research in teaching reading comprehension with the intention of raising reading comprehension scores via the Scholastic Reading Inventory (SRI) be carried out over the course of a whole school year. The SRI should be administered within the first week of school, again mid-year, and again two to three weeks before the end of the school year. When students are tested the first week of school it allows the researcher to obtain a baseline-score. A mid-year check-in would allow the researcher to see if any progress has been made. When students are re-tested at the end of the year it allows the researcher to check for yearly progress. By having a beginning of year and end of year test it allows the researcher to see a difference in scores between the SRI assessments.

I have included other changes that may accommodate for the threats to validity. Testing was a threat in the sense that my students, in general, do not like taking tests. Therefore, I have a few students who do not take it seriously and answer the questions without reading the passage. Thus, having to take it a second time was agonizing to

them. This problem also relates to reactive or interaction effect of testing. Students who did not want to take the test received decreased scores possibly accounting for the decrease in their responsiveness to the reading comprehension strategies provided in class. It may be worth telling students that if they receive a certain score on the SRI they will receive a reward, this could be a piece of candy, extra recess time, extra silent reading, etc. The reward may be enough of a motivational factor to cause them to do their best work. If students did their best work the test results should show students' actual ability which should be comparable to what the teacher sees in the classroom. But in doing this the researcher would need to differentiate the score needed to receive the reward. The scores needed for each student needs to be based on their ability level. For example, a fourth grade student reading on a second grade level cannot be expected to achieve the same score that the gifted child reading on an eight grade level will receive.

To account for multiple treatment interference the researcher could give the students a survey asking about their knowledge of the reading strategies to be taught. The researcher could also administer a survey having the students define and give examples of each of the strategies, followed by a question about their use of the strategy. The question could be as simple as: Have you ever used prior knowledge, or your experiences, to understand a story? How did you use this strategy? When do you use this strategy?

It was investigated whether reading comprehension would improve when differentiated by readiness. Although, it was founded that the research supported the null hypothesis the experiment could be undertaken again. As the researcher considers the threats to validity, such as maturation, reactive or interaction effect of testing, and

multiple treatment interference, the experiment could be repeated. With more time and careful consideration of threats to validity this could be a very informative assessment tool for other future researchers. If a positive correlation for reading instruction differentiated by readiness is found, more instructors may be willing to differentiate by readiness to help their students become better readers and to improve scores on standardized tests.

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Appendix

Table 1: Student SRI pre- and post-test scores

Student number	Pre-test SRI score	Post-test SRI score
1	615	752
2	750	759
3	564	480
4	0*	0*
5	998	915
6	942	946
7	937	934
8	863	895
9	875	875
10	794	794
11	506	443
12	420	595
13	884	937
14	622	1020
15	879	839
16	374	447
17	668	647
18	332	397
19	896	840

- Student scored as a beginning reader, a Lexile score below 100. Lexile scores begin at 100, anything below that is assigned “BR” or beginning reader. Therefore, for data purposes she was assigned a 0 score.

Appendix

Table 2

Data Entry for Wilcoxon Signed-Rank Test

Pairs	X_a	X_b	S/R of $ X_a - X_b $
1	752	615	+15
2	759	750	+3
3	480	564	-13
4	0*	0*	-12
5	915	998	+2
6	946	942	---
7	934	937	-1
8	895	863	+5
9	875	875	-17
10	794	794	+14
11	443	506	-9
12	595	420	+16
13	937	884	+7
14	1020	622	+18
15	839	879	-6
16	447	374	+11
17	647	668	-4
18	397	332	+10
19	840	896	-8

$W = 31$ (the sum of S/R of $|X_a - X_b|$)

$n_{s/r} = 18$ (also degrees of freedom)

$z = 0.66$

$P(1\text{-tail}) = 0.2546$

calculated from <http://faculty.vassar.edu/lowry/wilcoxon.html>

Appendix

Table 3

Critical values of $\pm t$ for $df = 17$

p	1-tail	2-tail
.050	1.74	2.11
.025	2.11	2.575
.010	2.57	2.9
.005	2.9	3.225
.001	3.65	3.965

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